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ABSTRACT

The eight studies reported involve manpower research with immediate relevance for administrators and practitioners involved in all aspects of occupational and practical arts education. Topics covered include: (1) Effects of Training on Labor Experience, (2) Upgrading Workers' Job Skills, (3) Breakthrough for Disadvantaged Youth, (4) Negro High School Dropouts Unreached by Federal Work Training Programs, and (5) Learning the Tool and Die Maker Trade. A bibliography lists the eight relevant studies and 30 additional studies. (BH)

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Manpower Research Visibility

Bridging the gap between researcher and practitioner by providing: interpretation—attention—synthesis of manpower research and demonstration projects relevant to vocational-technical and practical arts education.

MRV Focus: "Real Life" Education Front

MANPOWER RESEARCH VISIBILITY is designed to illuminate selected research, explore innovative approaches, and call attention to programs that have immediate relevance to the vocational-technical practitioner and administrator on all levels of occupational and practical arts education and manpower training. As such, technical aspects are purposely kept to a minimum. Appropriate information will be recast and focused for direct and immediate utilization on the "real life" educational front: the shop, classroom, and laboratory.

The articles, reports, reader feedback and general information contained in this American Vocational Association project have been made possible by the Division of Research and Development Utilization of the Department of Labor (Contract No. 82-11-71-37). In general the mission of the project is to spotlight pertinent grant programs, projects, and studies that have current significance for vocational-technical educators around the country. These projects frequently involve change, but change in relation to current and projected needs, not just change to be "different" or "to try something new."

It is hoped that the efforts of these columns will generate interest and develop a desire to become actively involved in the evolutionary process of program upgrading, so necessary to the efficient and effective development of the human resources of these United States.

The editor of MRV is Donald L. Rathbun, who is on leave from the consulting firm of United Dynamics, Inc. (a subsidiary of Lyles, Bissett, Carlisle, and Wolff). Mr. Rathbun, director of Manpower Research Information, is in residence at AVA headquarters. Drawing on a wide variety of inputs from many sources, as well as his own experience as tradesman, vocational-technical teacher and administrator, and consultant, he will develop this section for the utilization and comment of his readers.

In future issues of MRV a dialogue with the readers is planned. The only way that this can be accomplished, of course, is through your participation.

The editor is interested in your reaction to the reports, editorial comments, and general information. Your response may take any form you wish—letter, note, short editorial, or list of comments. Each will be greatly appreciated and helpful to the mission of MRV.

In addition, MRV is interested in receiving information about your manpower training program, innovations, creative ideas, etc., to share with other readers. The editor also invites the submission of editorials on topics pertaining to manpower training and the development of human resources.

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frankly speaking

By Donald L. Rathbun
Editor, MRV

The Manpower Program

We hear a lot about it these days, but what is it? It takes different shapes and forms from community to community but basically it is a massive national experiment in vocational education and counseling and more—much more. It is a multi-billion dollar effort involving millions of people. What kind of people? People that we haven't reached before.

Primarily, these people are the disadvantaged and deprived, the dislocated and destitute, young men and women that somehow have been pushed to the side by the rapid rush of society. They are people that have a potential place as productive citizens if they are but given a pull up by a variety of assists that will allow them the opportunity to help themselves.

The Manpower Program has been based on a psychology of learning long held by vocational education and has been given the impetus and wherewithal to overcome barriers to education, the road blocks to learning, either by removing them or by utilizing a freedom, a flexibility, to go around these deterrents in various creative and innovative ways.

To illustrate: If the problem is financial, pay the student to go to school. If an educational deficiency is the deterrent, provide remedial assistance. If the barrier is psychological or emotional, provide counseling. If it is physical, provide health services. If it is lack of communication, where to go, what to do, provide outreach services to inform him—bring him in. If the student's children need day care, provide it.

When a person wants help, needs help—do it then and there. Don't wait to start training until next term. Don't throw the lifesaver after he's drowned. When he doesn't show up, go find him, make it possible for him to return, show that he's wanted. If he's a fast learner, don't hold him back—is it necessary to hold him for x^{10} hours just because someone decided that's the program length?

Provide job placement services, transportation, follow-up; eliminate whatever constitutes a barrier to learning, to employment, continued success—that is what the Manpower Program is—that and more—vocational education at its best—properly financed—creatively administered—dynamically supported—a meaningful, yes, vital, *something for all.*

President's Manpower Report

Perhaps by now many of you have received, or at least have requested the order of (you're much too busy to do it yourself), the 1971 Manpower Report of the President. Since this document more or less sets the stage, at least philosophically, for program emphasis and administrative concerns regarding vocational education, welfare, manpower development and other critical fields affecting the human resources of our nation, we happen to think it ought to be required reading for all enagaged in vocational education as it is the first report of this type that really recognizes our field.

The opening chapter centers on the adjustments that faced the nation's economy during 1970. The second chapter is concerned with new developments in manpower programs, while chapter three discusses the critical problems of urban labor markets. Chapter four takes a look at the rural manpower dilemmas, and chapter five reports on governmental expenditures and manpower requirements. There is also a progress report on Job Matching and Labor Market Information programs and a statistical appendix.

References made to various newly established federal agencies and grant sources will provide the innovative and progressive vocational-technical educator much food for thought; he may even come up with a new program or two.

Order from the Government Printing Office, catalog #L1.42-2;971, cost $2.50. See *Sources of Information* at the end of this section for address.

Metric System

Say, have you been caught up in the THINK METRIC campaign yet? This controversy should be the concern of the entire U.S. education system and most certainly vocational-technical educators who will bear the brunt of the initial retraining efforts.

There have been numerous substudies conducted to date (see *Sources of Information* at the end of this section), each reportedly published without bias or prejudice, and a comprehensive report on the entire U.S. metric study was sent to Congress by the Secretary of Commerce last month.

Whether the United States decides to go metric or not will have little or no effect on the rest of the world which is, or soon will be, on an almost irreversible course of metric conversion. We need to recognize the bilingualism that already exists in the measurement language and take steps to incorporate appropriate units in the current curriculum.

The change, if it comes about, will probably be a slow process to lessen the shock aspect, but there is an inertia which may eventually tip the scales favoring metric units. In case you think that day is far off, look at the ruler in your desk (it probably has both standard inch and metric calibrations), or try to use your standard inch fraction wrench on your Volkswagen or your Datsun.

manpower reports

Effects of Training on Labor Experience

A SLOGAN which has been adopted by many in the field is, "Vocational education doesn't cost, it pays." Does it? If so, how much, how soon, and as compared to what? No longer can the developer of manpower rely on personal observations, feelings, or experience alone as we move into an era of accountability. We must seek the facts and apply the scientific method to extract valid and unbiased answers.

Even then caution must be exercised. What about those factors that are intangible or difficult to quantify but still vitally affect the final product and are definitely part of the process or consideration? The decision process must still be interspersed with understanding and concern toward these "phantom" factors. Here's where experience counts, and these insights must be conveyed to the "management types" and "decision makers" who weigh only the surface factors and pay little or no attention to the human factors that are so nebulous and difficult to define or evaluate but nevertheless are the real intent and purpose underlying any meaningful training program.

This study is relative to the above and relevant to the current cost/benefits questions and accountability challenges aimed at vocational-technical education today. It is not an answer, at least not a complete answer, but it is a procedure and a means of developing additional insights and concerns for those factors less apparent than that of the "training one man for one job" surface concept of vocational-technical education and manpower training.

The reader interested in conducting this type of research or the person interested in "selling a program" based on cost vs. benefits will find considerable help from the document, reporting on the data collected and the analysis performed during the course of the study. The review in Chapter II of pertinent literature exploring the concept of human capital will provide an informational background for a better understanding of the importance of the training task and provide a base for his own project or study.

The project has as a subtitle, "An Analysis of the Tennessee Vocational-Technical School System." This is a slight misnomer and should not be a deterrent to your acquisition of the material. Although data were secured from a number of Tennessee AVTS, it does not analyze the effectiveness, efficiency, or net worth in terms of returns to the locality, state, or region, except the more obvious and easily compiled increased wage return to the trainee and the return on the trainee cost investment.

The investigators, R. L. Bowlby and W. R. Schriver, express cognizance of these limitations, and although the "multiplier effect" (the spin-off benefits to the economy of the wage earner's area through his increased purchasing power, etc.) is mentioned, its components are too numerous and too obscure to render them readily accessible for quantitative research.

The objectives of the study apply equally well to other communities or states; they are:

"1—To provide the public (with particular reference to policy makers and legislative bodies) with a demonstration of the positive effects of vocational training.

"2—To provide administrators and educators, particularly those responsible for planning and the allocation of funds, with a specification of relationships among alternative training investments and employment experience.

"3—To provide immediate evaluation of the effectiveness of the various training programs and to provide an ongoing method for continued evaluation of future training programs.

"4—To provide relevant and timely information useful in student guidance and counseling."

An analysis of wage data obtained from AVTS trainees showed both primary (compared with the untrained) and secondary (compared with trainees who received other formal training or education) benefits for their investment. The benefits (higher wages) were maximized in males who migrated and who completed substantial hours of instruction in machine shop, welding, or electricity-electronics. AVTS trainees showed increased labor force participation, reduced unemployment, and increased occupational mobility.

It was found also that training was beneficial to former students regardless of prior educational attainment. However, income did increase in constant ratio to years of general education completed.

From an economic development standpoint, it should be noted that the out-migration trend in Tennessee has decreased as public and private training and employment opportunities have increased. The

primary source of income generation appears to be from manufacturing.

Implications for the vocational-technical student and educator are many and should be explored fully in terms of investments in human capital. One source quoted suggests that these investments throughout the United States between 1929 and 1957 may have contributed to as much as twenty per cent of the nation's economic growth as measured by increased Gross National Product. Many other correlations between investments in vocational training and increased personal income are noted.

The authors/investigators feel that their study offers advantages over other studies in that they have lengthened the period of observation to five years, have drawn the total study population from a wide geographic area and from fifteen different vocational curricula, and have utilized individual quarterly income data from the Social Security Administration.

According to the authors, this study combines a number of previously developed techniques into a method that controls those variables that heretofore were considered potentially invalidating. It will provide information that will lead to a better understanding of the positive side effects of vocational-technical education, and it may well be the type of foundation that will provide the impetus and support for future examinations of other benefits of vocational-technical education in addition to the increased wage effect.

See Sources of Information at the end of this section for ordering instructions.

Upgrading Workers' Job Skills

VOCATIONAL-TECHNICAL SCHOOLS and community colleges are being called upon with increasing frequency to assist industry with in-house training and upgrading programs. The advantages to the individuals involved and to the schools are many. The working relationships developed between the schools and industry have many positive ramifications and are worthy of consideration by those not presently engaged in these activities.

The following two reports involve projects of in-plant skill upgrading. The first report, *Upgrading the Workforce: Problems and Possibilities,* will provide both background and information on what is currently being accomplished by 20 plants of various types across the country. The vocational-technical educator reviewing this project in-depth will be exposed to various programs and viewpoints. He may also more clearly see his role and responsibility in supporting business and industry by providing institutional services, especially in adult education and special occupational courses.

The second report, *A Handbook for Upgrading Low-Skill Workers,* presents procedural and methodological guidelines based on four years of research and demonstration in upgrading underemployed workers in-plant. The handbook has direct application to the organization, implementation, supervision, and evaluation of upgrading programs.

Many parts of this report, such as the marketing function ("selling the program"), trends analysis, curriculum development, etc., have direct applicability to regular occupational programs. We recommend this document as resource material and as a generalized handbook for upgrading underemployed workers.

Upgrading the Workforce: Problems and Possibilities

THIS REPORT was prepared by the staff of E. F. Shelley and Company, Inc., under contract with the U.S. Department of Labor, Manpower Administration. It studies a small sample of upgrading efforts in American industry. The focus of attention is on problems of program design and implementation and various techniques which may help to overcome the problems. The study is not intended as a "how-to" guide for such programs, but it is hoped that the study will stimulate thinking on the need to improve promotional opportunities for nonsupervisory workers.

A sample of twenty existing upgrading programs was selected for the study. These programs provided a mix of project types according to funding source, structure of training, occupation and industry, and size and length of training program. Data were collected on motivation (why the company became involved, as well as why employees participated in the program), planning, selection of trainees, program components, and program outcomes.

The study is divided into four main chapters, each identifying a major constraint involved in upgrading the workforce and the positive responses to these problems in the form of case notes about the specific projects investigated.

Each industry has developed a process which will effectively turn out its product or service. The patterns of jobs available are determined to a large degree by this process. Management, as a matter of course, provides for training and upgrades people to fill these jobs as vacancies occur.

Skill shortages and pressure from equal employment opportunity agencies have produced the greatest need for special training efforts on the part of management. This problem has further been intensified by the current economic situation which has temporarily lessened the number of available jobs and tightened job progression with or without the advantage of upgrading programs. It is generally understood that major changes in the production process or personnel structure will only be considered by management when they have economic justification.

However, there appears to be a growing awareness on the part of management that tends to tie together formerly unrelated problems. As an example, production problems are more frequently being related to personnel problems. Management has become concerned with special entry level training for disadvantaged workers. This interest has led to efforts to solve specific personnel problems, and many of the motivational programs thus developed are becoming an important part of upgrading projects.

Evidence from the study indicates that workers do not usually express demands for more upgrading opportunity. However, when communication is improved between workers and management, workers' aspirations become more articulate and management is prodded into considering new personnel activities.

Upgrading programs involving the time and money of workers can be successful if attention is placed on motivation and rewards. The workers' reluctance to participate can also be overcome by in-plant, on-company-time projects.

A major block to upgrading the underemployed has been their basic educational deficiencies, rather than a lack of manual skill abilities. Management recognizes a need for remedial education but is reluctant or unable to offer it at company expense. (Editor's note: A role for adult education.)

Workers often have negative attitudes toward promotion which may be overcome by showing them their role in the production process as a whole and by broadening their knowledge of the company and its goals. Likewise, line managers and foremen generally resist change in personnel development more than any other interest group. Their resistance can be overcome by including them in the planning of programs.

Labor unions can exert strong influence on management to adopt upgrading programs. The unions will do so only when the benefits to members are clear and when the authority of the union is not preempted.

The study emphasizes that there is no single upgrading model which can be applied to the needs of all companies, and as a result more flexible services are being recommended for agencies and institutions offering upgrading programs.

Upgrading programs which move the trainee into established ladders of job progression have a longer range of impact on his career opportunities than do programs which operate within narrow occupational structures. The best upgrading efforts are clearly those which strive for creation of an environment of openness derived from management's broad interest in the needs of the employees.

The study not only points out the basic need for skills training in upgrading efforts but also emphasizes a broader view of upgrading which aims at improving the total work environment. This objective depends on communication between managers and workers and requires a general change in management attitudes towards workers' aspirations. For industry, the broad concept of upgrading means "finding out what employees want and maximizing their potential for achievement consistent with the company's goals."

The findings of the study are followed by a list of recommendations for the Department of Labor, management, and unions about the possibilities of improved upgrading practices.

See Sources of Information at the end of this section for ordering instructions.

Handbook for Upgrading Low-Skill Workers

THIS DOCUMENT was prepared by the Humanic Designs Corporation under contract with the Department of Labor, Manpower Administration. It generalizes the experience of a series of upgrading projects sponsored by the Department of Labor since 1966. The aim of the handbook is to provide a set of guidelines for individuals and organizations developing in-plant programs to upgrade low-skill workers to higher productivity levels. The handbook may also be useful as a training tool to educate professionals in the methodology of in-plant training.

The experimental work involved in this study showed clearly that programs to upgrade the underemployed are advantageous to industry as well as to the workers themselves. The increased productivity of the workers more than makes up for the cost of in-plant training programs if the programs are approached in the correct manner. The set of techniques and methods contained in the handbook can be adapted to fit requirements of specific plant situations or institutions and in general should be helpful to anyone interested in upgrading efforts.

Three basic components to any in-plant training program are cited in the handbook: Program Planning and Development, Program Operations, and Program Evaluation. The three components are analyzed in terms of the activities involved in each to give a comprehensive set of guidelines.

The program planning and development phase of any in-plant training program should first include efforts to involve management and appropriate supervisory personnel in the activities. They should assist in determining what the general manpower needs are, in

evaluating and performing the job task analysis and curriculum development program, and in selecting the trainees, scheduling the programs, etc.

An analysis of the job tasks and requirements is an essential element in planning the upgrading program. This analysis should consist of defining the job, identifying tasks constituting the job, describing the tasks, and determining the worker traits needed to perform the tasks. The handbook clearly describes methods to be used in compiling this information.

Before the curriculum is developed, the handbook suggests that trainees for the program be selected. It is advisable to select the trainees first because their composition may influence the non-job specific elements to be included in the curriculum and the time required to train them. Criteria must be established for selecting workers for the in-plant program. Since the worker traits needed to perform certain tasks have already been compiled in the job task analysis, it should be fairly simple to identify selection criteria.

Then appropriate industrial tests should be chosen which will measure the candidate's traits. The testing procedure was considered to be the most important means of selecting candidates, although recommendations, worker's seniority, and other factors may also influence their selection.

Curriculum development for the skills training component of the in-plant program is based on the job task and requirements analysis. With the identified tasks as basic content units, the process of curriculum formulation takes place in these stages: "developing instructional objectives and trainee performance criteria, sequencing task content units, determining content breakout, and determining instructional approach, techniques, and methodology for each content unit." The handbook provides detailed steps for these techniques and procedures.

The curriculum for non-job specific elements should take into account the needs of the trainee group, the region of the country, and other factors unique to each in-plant program. Certain elements, such as basic communications, leadership and human relations skills, money management, and consumer and legal education, were found in all of the experimental in-plant programs studied. Resource materials which help in teaching these non-job specific skills are listed in the handbook.

Another basic component of any in-plant training program is the continuous process of program operation and administration. This involves the activities of training, maintaining the training environment and rewards schedule, general administration, reporting, and collection of data.

The training process is the most important element of program operations. It encompasses all training, educational, counseling, supportive services and reinforcement activities related to the trainee's learning and using desired skills and behavior.

The handbook guidelines for instructional methodology will assist in setting up a training program. The techniques involve six steps which must be followed for each task to be learned: (1) presentation of new behavior (or skill) to be learned, (2)trainee demonstration of desired behavior, skill, or task, (3) reinforcement of correct demonstrated behavior, (4) application of learned behavior on the job or outside the workplace, (5) reinforcing correct application on the job, and (6) establishing a follow-up schedule.

The handbook also recommends a special orientation session to the program, a terminal session, and certain guides for lesson planning and teaching non-job specific elements.

Another important facet of program operations is the process of maintaining an environment in which the training can proceed uninterrupted. To achieve such an environment, the support and encouragement of management are essential. Means of making management approval visible are suggested. The problem of minimizing friction in the work environment (the friction of trainee/peer relations, trainee/trainee relations, trainee/new supervisor relations, and trainee/old supervisor relations) is also discussed.

A vital element in the support of the training process is program administration. The administrative activities fall into two categories: (1) facilities maintenance and program scheduling and (2) reports and record keeping. These activities all fall under the responsibilities of the in-plant program trainer.

The third and last basic component of any in-plant training program is a form of program evaluation to determine the effectiveness of what is being done. The handbook suggests four alternative approaches to evaluate the program and gives guidelines for each.

The four evaluation procedures mentioned are evaluating program effectiveness in terms of: absenteeism, tardiness, quits, and dismissals; job standards and observed trainee performance; supervisor's observations of the effects on trainees; and the trainee's perceptions of the benefits of the program to himself. All four procedures are relatively inexpensive to use.

The handbook also gives a more rigorous alternative to evaluating program effectiveness in terms of objective measures of productivity. In all of the alternatives, the cost of training should be a factor in evaluating the program as a whole.

In addition to the basic components in in-plant training programs, the handbook provides information on how to introduce the upgrading concept to firms and how personnel managers may "sell" the concept within their own firms.

The handbook would be useful as an operations guidebook or as a training tool and provides a good framework within which a particular plant or institution may structure its own programs.

See Sources of Information at the end of this section for ordering instructions.

Breakthrough for Disadvantaged Youth

IT IS HISTORY NOW, those early programs and projects implemented after the enactment of the Manpower Development and Training Act in 1962. Remember the waves created by what many of us felt were parallel efforts to our quality ongoing programs—programs that we so meticulously developed, tested and screened for, and operated almost ritualistically for 1,080 or 2,000 hours (or some other magic number that neatly fit a time frame honored at our institutions)? Why?

Well, anyone knows it was because of some state requirement; or it was for federal reimbursement, or because that was the way it was always done at Voc-Tech High, or for some other "bona fide" reason.

We judged our programs by their popularity (how many couldn't get in) or by how difficult they were (how many flunked out). After all, isn't that the way we learned to do it in college—gear for failure not success; weed 'em out; they are the misfits, the ne'er-do-wells anyway, if they fall by the wayside; we must be able to guarantee quality tradesmen upon graduation at all costs.

In retrospect we were doing a good job, about as good a job as our academic colleagues, but with the advent of the sociological era came a growing awareness to rattle the cage on many fronts. We couldn't, or wouldn't, or, at least, didn't break the traditional chains soon enough to reach out, to lift up, to carry on meaningful programs for the disadvantaged, the dropouts (or push outs), the minority groups, or the handicapped.

Oh yes, here and there, attempts were made; a few inconoclastic, rebellious hucksters were able to "sell" a "different" approach that was indeed helpful for a few. Something else had to be done, and then came the BREAKTHROUGH—MDTA. It was slow at first, mildly successful here, a failure there, a tremendous impact somewhere else.

By 1965 enough of a track record had been established that Congress saw fit to amend the original act to carry out a larger program and to give the Secretary of Labor explicit authority to "establish a program of experimental, demonstration, and pilot projects . . . with public or private nonprofit organizations . . . for the purpose of improving techniques and demonstrating the effectiveness of specialized methods in meeting the manpower, employment, and training problems of worker groups, such as . . . disadvantaged youth. . . ."

Some of the programs gained widespread recognition, others did not. What was the spin off? What was the effect on other ongoing programs? Techniques developed in the projects needed to be evaluated and disseminated, their strengths elaborated, limitations known.

In 1967 William Mirengoff, then deputy director of the Manpower Administration's Office of Manpower Policy, Evaluation, and Research and later acting director of the Job Corps, initiated "Operation Retrieval" which assembled files, records, and reports of 55 Experimental and Developmental (E & D) Youth Projects instituted under MDTA. From the studies, onsite visitations, evaluations, and data analysis, a 256-page document was assembled titled *Breakthrough for Disadvantaged Youth.*

No predetermined position or format was thrust upon the investigators, and the Department of Labor was disassociated from conclusions and recommendations made. Eight basic areas of a comprehensive training system were scrutinized, namely: (1) impact on the community; (2) recruitment and community penetration; (3) testing, counseling, and supportive services; (4) basic education; (5) pre-vocational and vocational training programs; (6) job placement, creation, and development; (7) using the nonprofessional; and (8) research.

Eventually many of us vocational-technical educators became involved in one way or another with MDTA programs and even came to realize that the original parallel we once thought existed, did not. Conventional approaches had not focused on existing or potential labor force problems in any magnitude. Some services must be tailor-made for special groups.

A vehicle for experimentation—a built-in instrument for change—generated by social ferment brought a newness of public support even in vocational-technical ranks, and now more and more institutions are using the experiences of E & D projects to become more responsive to larger segments of the population. Although service oriented, the significant impact of those early projects was not so much the people served but the influence that they have had upon institutions of society through the innovations developed.

Regardless of your current stand on Manpower programs, there is no denying that the E & D projects tended to break through old patterns and uncovered a multitude of new and creative ideas. We can learn from these breakthroughs even at this late date.

Impact on the Community. Projects were directed toward developing and demonstrating new ways of meeting the employment needs of disadvantaged youth.

Impact was viewed from two positions: (1) the degree that agencies and institutions cooperated with the projects relevant to the accomplishment of set goals; (2) the degree to which project findings were utilized by other agencies and institutions.

Problems of cooperation stemmed from three main sources: negative attitudes, inadequate planning and insufficient resources. Negative attitudes of defensiveness and hostility by established agencies were generated by the feeling that they were being encroached upon and that their competence was being questioned by the presence of E & D projects in their geographic area. Many of these agencies lacked the staff, space, equipment or funds to extend their services beyond an already stressed limit. Rapid implementations are seldom conducive to quality operations —and initially there were many problems.

Eventually, through better planning, staff training, reorientation to the projects' philosophy, and the development of cooperation throughout the community, the projects began to foster new concepts and practices that have had a decided spill over into established institutions.

Looking back it is easy to conclude that many of the problems began with an over eagerness and a compulsive sense of urgency far overshadowing good management procedures and sound practices. Reviewing the hard hitting evaluation reports we find that lack of initial impact could be traced in part to the failure on the part of the Labor Department to involve the U.S. Office of Education as well as state and local agencies and institutions in the co-architectural development and sponsorship of these projects that *needed* to utilize a large educational component.

As communications improved at all levels and inter-agency cooperation began, various aspects of the E & D projects were embodied in other thrusts to combat poverty and assist the disadvantaged. VISTA, the domestic version of the Peace Corps, HEW projects, OJT, HUD, and numerous youth programs, not to mention MDTA and institutional vocational-technical programs at all levels, have been the recipients of demonstrated innovations that found life and meaning as an outgrowth of a driving desire to help the injured and defeated bystander who somehow has been shunted from the mainstream of a good and productive life.

Experimental and developmental projects have provided a laboratory for occupational educators to discover the needs of disadvantaged youth and develop new attitudes, flexibility, and innovation in technique, curricula, and methods. The job is vast—it will be done. There now exists a considerable pool of knowledge and experience to draw from. It seems only proper to capitalize on the impact, utilize the positive practices and strategies and reshape programs where necessary to reach the largest possible number of young people in the shortest possible time.

Recruitment and Community Penetration. This section of *Breakthrough for Disadvantaged Youth* examines the Manpower Administration's experimental and developmental projects as to the success of their recruiting efforts and the degree to which they were able to penetrate the community.

Recruitment refers to the strategies and procedures used by the staffs to locate and involve the seriously disadvantaged. Community penetration refers to the techniques used to gain a place in the community on four fronts: (1) the general community, (2) potential employers of disadvantaged youth, (3) agencies and organizations already involved in like pursuits, and (4) indigenous groups and individuals from disadvantaged subcommunities.

Program data availablility varied greatly from program to program, but a generalized picture was drawn. The most effective method of recruitment appeared to be face-to-face contact, using the agencies' own recruiters day and night wherever potential candidates were to be found (only about 12% were referred by other agencies). Most all hard-core disadvantaged youth had one common trait—low reading level.

It is important to know where disadvantaged live in a target area and what their characteristics are. Programs must be designed around their needs and not some preconceived ideal. Special capabilities to handle the most seriously disadvantaged (e.g., the mentally ill, addicts, etc.) are essential. Guidelines are needed also; for instance, clients should be out of school, out of work, and of proper age; but at the same time guidelines should not be so restrictive as to exclude disadvantaged persons.

The social prestige factor should be expressed at all times in positive terms, and labels that have connotations of rejection, such as anti-delinquency programs or poverty programs, should be avoided. Work programs seemed acceptable. Stipends were highly effective.

Mass media recruitment was most ineffective, and carried some negative results. Posters and throwaway circulars placed where potential trainees congregated did, however, prove effective. Informal recruitment, referral by friends or relatives, played the largest role, as high as 46% in some projects. No substitute for a well trained staff was found.

Holding power was directly related to the speed in which a client was identified, enrolled, and involved in a program. The most successful programs absorbed new recruits without waiting for a new training cycle to begin. Testing should occur after the trainee is

enrolled. Unfortunately, though, the most seriously deprived were found to be the most difficult to recruit and hold, even in these outreach programs. Many questions are as yet unanswered.

Testing, Counseling. This section attempts to identify new knowledge and techniques in working with youth and centers on implications for new policies, programs, and strategies. It also is an attempt to define major features of assessment, counseling, and supportive services found effective in E & D projects.

The varied projects, working within a psychological frame of reference, directed their efforts to cause a change in the youth by directly intervening in their behavior and experience. Other variables (social and economic), however, were left undefined and unmanipulated. It is questionable just how valid the psychological frame of reference is, as far as work is concerned, since this is seldom a consideration of one's unemployment.

Here again other points of confusion were raised: There was no clear-cut definition of policy limiting demonstrations nor differentiation between the goals of research and of service. However, new areas were pioneered and a mass of new ideas unfolded.

In the assessment processes the test most frequently used was the GATB, most probably because the employment service administered it. Many of the projects that used it claimed it was neither useful nor desirable for the population served. More than 60 psychological and vocational tests were reported, with the Wechsler Adult Intelligence Scale (WAIS) second to the GATB. The WAIS was seldom administered except for special problem cases.

The rest of the tests used were old standard tests. There was little or no experimentation with newer instruments or lesser known tests. The Ammons Picture Vocabulary Test, used by the Job Corps, was not reported by any project, nor were other nonverbal tests such as the Leiter International Scale. The Strong Vocational Interest Blank (SVIB) was recommended over the Kuder Preference Record (KPR) in that it is more versatile and a better standardized nonintelligence test, whereas the KPR offers a limited range of interpretations.

A great deal of opposition was expressed regarding testing in principle as well as in practice. Many trainees refused to complete tests; usually less than 50% would show up. It was reported that many dropped out during this phase of intake. (Editor's note: Could this be a result of negative conditioning by our educational system?) The consensus, based on the studies, was that mental ability test scores of disadvantaged youth are not stable or reliable as predictions of future performance.

Counseling provided by the different programs varied greatly both in the context in which it was performed and the use to which it was put. It generally was considered part of a larger set of services which included training as well as placement.

Limitations of counseling must be recognized. One finding suggests not using the promise of good jobs as an incentive because frequently it was found that program graduates received no higher starting wage than did program dropouts. Job development specialists are needed to free the counselor to concentrate on counseling per se and placement.

Supportive Services. Many types of supportive services were found to be essential to project success and trainee development. These may run the gamut from residential facilities, financial support, legal services, or health care, through recreation, psychotherapy, cultural enrichment, and image building, to role models, transportation, and babysitting.

In general supportive services center on all aspects that have an effect on one's general health, welfare, and happiness. Role models were included in this grouping because of the relationship with cultural enrichment and image building activities. Some of these services were provided because other social institutions have failed to do so, while others were offered for their social value alone.

Basic Education. Few comments are necessary regarding the basic education section of the report. It was recommended that, for the trainee group considered, all training and basic education be done on the job if at all possible. A status setting should be used *which does not mean a classroom.* Lack of competition between institutions was cited as a major factor contributing to complacency, limited service, and rigidity or lack of change. Quality programs offer opportunities to explore the world of work.

Elements not found in general or traditional educational programs should be included for the disadvantaged (e.g., birth control information, nutrition, free reading materials including magazines and paperbacks. Staff should be selected on their ability to relate to trainees and not by academic achievement or experience in other pursuits of education.

Pre-Vocational and Vocational Training Programs. Pre-vocational, as applied to the projects reviewed, had a different connotation than that generally applied by the vocational-technical educator. By pre-vocational, the author of this section of the report referred to the basic skills of communication (verbal and written), social skills and understandings, and work adjustment skills (attitudes, motivation, behavior) that are the so-called social/cultural norms of a middle class society.

It was obvious that the disadvantaged were grossly deficient in these areas. (Editor's note: Some of the reasons why conventional programs in traditional setting will not work for this clientele.)

Pre-vocational training then, in the context of this study, was directed toward developing a readiness for skill training and employment through counseling (e.g., peer group sessions, role playing, group counseling, etc.) and work experience (e.g., sheltered workshops, vestibule training, work crews).

Almost from the inception of MDTA it was recognized that many of the restricting aspects of conventional vocational education were amplified when attempting to train entire groups of disadvantaged.

Courses were generally rigidly scheduled to conform to academic standards of entrance and performance, school-based training was repugnant to the trainees because they had already failed there, much of the equipment and methods used were outdated, most programs were too high level to be accommodating, courses too narrow to be responsive to broad field application or the trainee's aspirations, and the vocational counseling process was meaningless since too few programs existed in any one community.

Remedial work prior to skill training was looked upon as more of the same old "schoolwork"; result—dropouts, failure to enter training.

To overcome these limitations the following procedures were found effective in successful programs. Basic education (after being authorized by the 1963 amendments) was offered concurrently with training. Instructional materials were used that would allow trainees to progress at their own rate. Nonprofessional instructors were utilized for their practical knowledge and skills and for their ability to relate to their audience. Skill centers providing centralized training and support services were placed close to or in target communities. A multi-occupational and open-ended curriculum was used. Physical examinations and minor medical treatment were provided.

In addition to the preceding innovations, on-the-job training was used to move trainees into industry, and job development, placement, and postplacement follow-up activities were conducted as a vital part of the overall program.

Job Placement, Creation and Development. Job placement and job development were viewed passively at the beginning, because like many less progressive vocational-technical people, project staff felt once a person was trained he would encounter little or no difficulty in securing employment.

Many trainers fail to realize that upon completion of a training program the trainee does not suddenly become a finished craftsman, mechanic, or technician. All he has are job entry skills and he needs additional work experience on the job before he becomes proficient. For a period of time he will not be productive, and in many cases he costs the employer in wasted materials, damaged equipment, and additional training expense.

Too often, it was noted, failure to hire program graduates was more a matter of economics than it was a lack of desire to help the disadvantaged. (Herein lies the justification of wage supplement until the graduate becomes productive; it also points out one of the problems that stem from an elevated minimum wage law—fewer entry jobs.)

Job development involves a number of services including placement and follow-up contacts and counseling. The process of finding jobs utilized every channel and strategy known and many new creative ideas were tried. Job fairs were held. Close interaction between developers, staff, trainees, and community was maintained. The buddy system between the employed and yet-to-be-employed was helpful in some cases. On-the-job training proved to be the best preparation for both successful training and placement.

It is extremely important that civic leaders and management people be involved in program development, which eventually leads to the placement of individuals. Through their involvement, their attitudes are changed and their cooperation is enlisted. At times it is necessary to alter job requirements; this was accomplished in many programs; the same was true of job entry requirements. (Caution: Work in gradual degrees in accomplishing the latter.)

Evaluation is tantamount to all other program elements. To measure impact on the individual, his employment, effectiveness on the job, information on wages, job satisfaction, employer evaluation, job retention, etc., must be known. Most projects (Editor's note: like too many vocational-technical schools) were totally inadequate in providing sufficient information. Follow-up is a continuous process involving staff and administration. It is difficult to keep in touch with ex-trainees, but somehow a communication link can be found.

Follow-up information must follow a prescribed format to be effectively analyzed. The job developer with his close contact with employers is a key person in securing a constant flow of follow-up information. Feedback information is of no importance if it is not used. Research of all program elements will eventually lead to more effective and efficient means of preparing everyone for something meaningful.

Our only hope can be the full utilization of these findings by legislators on federal and state levels, by management in business and industry, and by all educators. Once a comprehensive and concerted effort by all agencies begins to materialize—we will truly have a "breakthrough" for all.

(Editor's note: It is suggested that before attempting to write a skill program proposal or become involved in a manpower program—or if you want to do a better job of reaching the disadvantaged youth—you secure and study *Breakthrough for Disadvantaged Youth*.)

See Sources of Information at the end of this section for ordering instructions.

Negro High School Dropouts Unreached By Federal Work Training Programs

EARLIER STUDIES have noted that the "hard-core" dropout has often not participated in federal manpower programs. This study was conducted in an effort to find out why this is so and to discover what improvements in the programs could be made to make them more accessible and responsive to the needs of this particular group.

Since nonparticipation in the program was assumed to be partially due to alternative activities, such as military service, the study also concentrated on the post-dropout activities of the group. Some of the findings brought out in this study would be of interest to vocational-technical educators and would give them a better understanding of the problems of training potential school dropouts. Many of the factors which cause this group to avoid manpower programs are related to their attitudes towards school and towards "school-like" experiences, where they have been conditioned to failure.

The sample population studied consisted of groups of approximately 300 Negro male dropouts each. The researchers were able to gather information in interviews on about 170 subjects from the sample. The men were born before 1952 and had left urban public schools in 1966-67 before graduating from high school. The researchers collected data on the personal and family characteristics of the dropout group in order to get a better understanding of why they did not participate in federal manpower programs.

The subjects were asked to list their reasons for leaving school and to indicate their main reason for leaving. Sixty percent of the subjects left school for reasons relating to the school environment, as opposed to reasons relating to outside factors. Thirty-seven percent of one group (A) left school because they had been rejected by the school (they were expelled or suspended), as compared to nine percent of the other group (B). The B group showed that dropouts left because of problems with school work ("subjects were too hard" or "not learning anything") and because they "lost interest" in school.

In both groups, the majority of subjects dropped out by choice. (Editor's note: This may indicate limited high school program offerings, irrelevant courses, poorly executed vocational guidance, or other factors not explored, and presents a challenge to vocational-technical educators to expand and improve their programs.) When all of their reasons for leaving school were listed, the majority of reasons were still school-oriented although preferred alternative activities, such as "needed money for expenses," were mentioned as reasons also.

After the study subjects were asked why they left school, they were asked to rate their liking for school. They generally rated their liking for school above midpoint on a scale of five. Their criticisms of school indicated that anti-school attitudes might be a persistent block to the participation of dropouts in training programs which appear to involve school-like experiences. However, the study pointed out that some of the dropouts had later come to realize the value of school and might appreciate a chance to continue their education.

Research in the study indicated that most of the subjects had not continued their education after dropping out as of June 1969 when the interviews were conducted. Only six percent of the young men who had dropped out had completed high school at the time.

An analysis of the ten year occupational goals of the groups studied showed that more than 75% of the subjects' goals were unrelated to work experience. This discrepancy between occupational goals and current jobs held by the Negro male dropouts indicated a need for further education and training. Most subjects recognized this need; 38% of them reported lack of education or training as a handicap to goal achievement, as compared to 10% reporting all other handicaps (discrimination, health, police record, etc.).

The need for further training is also emphasized by another finding of the study: Need did not decrease with age in the age ranges included in the study. The activities of interviewed subjects at three points in time—about 12 months, 24 months, and 33 months after leaving school—showed no decrease in the proportions of unemployment. The suggestion is that employability assistance needed by the groups studied continued past the age of twenty.

The researchers conducted a phase of the study to determine what the nonparticipants in the manpower programs actually knew about the programs. It was found that most of the nonparticipants had little or no knowledge about the Neighborhood Youth Corps and the MDTA programs. The Job Corps was much better known, but the subjects specified program drawbacks, such as being away from home, as reasons for not enrolling in the program.

This study points out that increased education and

training and expanded job opportunities are not enough to motivate participation in the labor force. The job has to appear to offer a career opportunity to the youth and the youth must develop skills which will make it possible for him to perform his job effectively.

The study points out that there are three skills important for a person to function properly: adaptive, functional, and specific content skills. Adaptive skills are those competencies which enable an individual to adjust to conditions around him. These skills for a job include grooming, punctuality, and getting along with others. They are normally acquired at home.

Functional skills are competencies that enable humans to relate to people, data, and things and include skills used in comparing data, consulting, or supervising people. They are usually learned in training, educational, and avocational experiences and reinforced on the job.

Specific content skills are those which enable a person to perform a specific job according he specifications of his employer. They are learned in a training program or on-the-job.

Most classroom education has concentrated on functional skills, while on-the-job programs have concentrated on specific content skills. This study points out that it is in the area of adaptive skills that the disadvantaged usually have problems. Federal manpower programs often do not achieve their goal of on-the-job success for trainees because the trainees lack adaptive skills although they can perform the tasks acceptably.

The researchers point out that the adaptive skills which may be suitable in the ghetto environment, for example, keeping on the move, are not suitable for job situations. The study suggests that adaptive skills can probably be developed on the job easier than through the classroom approach. In either approach, the individuals must be able to learn from their mistakes, must be rewarded for successes, and must be given more than one opportunity to apply themselves.

This research presents valuable information to aid in understanding the special problems of learning for the disadvantaged youths—and this understanding is essential in structuring manpower programs as well as vocational-technical courses and programs.

See Sources of Information at the end of this section for ordering instructions.

occupation reports

Learning the Tool and Die Maker Trade

Throughout the coming year MRV will seek, in addition to projects and studies of general interest to all vocational-technical and practical arts educators, manpower trainers, and vocational guidance counselors, other information pertaining to specific occupations or clusters of occupations. Space will not allow for full reporting, therefore only highlights will be touched. In the never ending process of becoming better informed in order to conduct more relevant programs, the practitioner is always encouraged to obtain the informational source for his own in-depth study, utilization, and dissemination.

The following is the first in a series of such reports and is directed to the attention of machine tool instructors, supervisors, and vocational guidance counselors. But first a few general comments.

It is amazing how little we really know about the 30 million or so blue-collar workers that make up a critical part of our economy. Of this one-third of the total labor force, approximately 10 million are skilled craftsmen. This group has become the focus of a number of Department of Labor studies to determine how their skills are acquired.

It may be of interest to note that only about 40% have learned their craft through formal training including apprenticeship, and only 40% of these thought the formal part was the most helpful way of learning, whereas approximately 40% of all craftsmen polled felt on-the-job training was the best.

The amount of formal training varied according to occupation. As an example, about 75% of the electricians and sheet-metal workers had received formal training, compared with 25% of the painters and about 33% of the carpenters. While almost two-thirds of the toolmakers and diemakers were found to have some formal training, only slightly more than half of the machinists reported some formal training. Most of the craftsmen had "just picked up" the skills.

THE TOOL AND DIE MAKERS TRADE comprises a relatively small portion of the skilled labor force; however, it is one of the most important. (Their number is expected to reach 220,000 by 1975). The average age in the trade is 44.6, with 75% being over 35 but under 65. Seventy-four percent had at least 12 years of schooling with older workers having considerably less education and fewer key trade subjects than younger workers. Mainly the men were trained on the job. Very few, even of the younger tradesmen, had formal training outside of vocational high school or trade school.

Strangely enough the researchers found little or no significant difference in competency, regardless of the six different routes of training taken. The distribution by training paths of those interviewed follows:

Training Path	Percent Distribution of Workers
On-the-job	22.5
Vocational high school	22.3
Picking up the trade	15.5
Apprenticeship	14.3
Vocational high school plus on-the-job training	11.3
Vocational high school plus apprenticeship	9.8
Miscellaneous (wide variety of paths)	4.3

This trade is not acquired as casually as it may appear. Over 80% of the workers had some sort of formal training either in school or on the job.

Work backgrounds indicated three general sequences of trade entry and progression; they were: (1) all-round machinists who became tool and die makers, (2) all-round machinists and tool and die makers who learned each trade simultaneously, and (3) the most common, men who were already all-round machinists who were converted into tool and die makers. The first two sequences involved either apprenticeship or on-the-job training while the third sequence involved either on-the-job training or picking up the trade over the years. The dividing lines are not clearly defined.

Training Pattern Shift. The trainee over the years has taken various paths or combinations of types of training, the popularity of which has tended to shift with economic conditions. Before the depression of the 1930s apprenticeship and vocational high school were the most popular paths, but as jobs became scarce or nonexistent, on-the-job training and apprenticeship could not be utilized. The lack of jobs and training opportunities and the rise in compulsory school attendance caused youth to stay in school longer; vocational high school became most important with some combination of work experience later.

During World War II the demand for skilled workers, especially machinists, rose sharply. This necessitated crash training programs or job entry with a narrow training background. Partially trained men were upgraded on the job or as they picked up skills and knowledge without the benefit of a program of some sort. During this period, although many schools were involved in war training efforts, the vocational high school as such declined in importance as a sole source of training or as an adjunct to apprenticeship or on-the-job training.

In post-war years the situation again reversed with veterans' training placing emphasis on formal programs and revived some interest in apprenticeship. Peacetime patterns, discounting the Korean conflict and Viet Nam, have seen the swing back to vocational high schools and, later, post-secondary institutions. Since 1955 approximately one third of the entrants have served apprenticeship alone or in combination with formal training.

At the time this study ended it was too early to tell conclusively what impact federal manpower programs enacted after 1960 may have had on the training of tool and die makers. This is partially due to the two-year training limitation which precludes full term training for these trades.

Significant Facts Remain. Regardless of the factors that have gone before, these significant facts remain: The education level of the average worker continues to rise; there is a growing dependence on formal training at and beyond high school for the preparation of technicians and skilled workers including tool and die makers; there will be fewer men with only formal shop training; shorter shop programs are likely with increased classroom instruction; and as trades become more complex greater theoretical understanding and mathematical knowledge will be required of skilled workers.

This study is also relevant to other occupations and training programs in that it tends to point out the diversity by which one can enter an occupation and advance in that given occupation or occupational cluster. The vocational-technical educator must be cognizant of the cyclical and secular changes in our society and economy, and of the vital necessity of individuals, programs, and processes to be responsive to these changes. Because of all of these variables, flexibility both in content and length of training must be emphasized at all levels. There is seldom a single "best way" to arrive at a job objective.

Traditional training methods, recruitment procedures, and selection standards must continually undergo close scrutiny and redesign. Natural aptitude is a vital factor in selection, but arbitrary screening criteria may bar the highly motivated.

Researchers, students, workers in the trades, employers, and vocational advisory councils all agree that we still fail to provide professional expert guidance for high school students, out-of-school youth, and adults whose plans do not include college.

Schools and employers could work more closely to develop cooperative programs and provide opportuni-

ties to gain first-hand knowledge of a trade or occupational cluster.

An important finding of the study indicates a less frequent need for the "all-round" tool and die maker than for the man whose training and skill is more limited. An analysis of the work conducted in several different shops reveals that all work need not be done by journeymen, and basic or preliminary operations tend to serve as natural training opportunities.

Another finding tends to confirm what many vocational-technical educators have known for some time: the employer is frequently unrealistic in his hiring requirements. In this study it was found that most employers wanted tool makers, die makers, and tool and die makers who could build the entire range of tools, dies, or tool and dies. Employers were not seeking men with limited skills and knowledge, which is out of phase with the actual work that they are required to do. It appears that there are several kinds of tool and die makers for whom different kinds of training are needed.

The question was raised as to how much specific training can be accomplished in advance. An attempt to prepare the trainee for "anything" is not considered as valid as it once was. Changing technology and deterioration caused by time tend to deplete or render obsolete a reservoir of skills and knowledge.

The study points out that it takes less time to become an all-round tool and die maker if a systematic training program is followed. (Editor's note: This is not to say that a formalized institutional program is necessarily the best.) The pressing need now is for a reliable means of measuring the cost effectiveness of various training routes so future decisions can be based on fact and not on tradition or someone's considered opinion.

Implications for Future Policy. Although the limitations of this study, both in geographic and occupational coverage, preclude generalization, it is strongly felt that there are implications here for future manpower and vocational education policy.

To quote from the study, "these include the findings that it is the individual himself and the opportunities available rather than the type of training that determines the degree of occupational skill, and that general economic conditions are important in determining the proportion of men who achieved their training through one method rather than another at various time periods."

See Sources of Information at the end of this section for ordering instructions.

Household Workers

In 1970 about 1.5 million women were employed as private household workers—including babysitters. Women constituted 97% of all workers in private household employment.

Social Health Technicians

THIS NEW OCCUPATIONS DEMONSTRATION PROJECT was designed to demonstrate that adults with little education or job skills could be trained in a dual program involving both education and specific job skill development. The innovative aspect of this program is not the important human services gap that the graduates have filled, or their contribution in helping to decrease the professional personnel shortage in their area; rather, the impact and significance of this project center on the development of a new subprofessional career in health occupations called the social health technician.

This project also clearly illustrates other important factors inherent in most training programs but seldom listed as a program goal or objective. As an example, it became evident as training progressed that the trainees not only became more conscious of their career potential but began to raise their aspirations with regard to educational attainment. Many went on to receive a G.E.D. diploma, and some went on to pursue part- and full-time college course work.

Occupational educators involved with health occupations may be especially interested to note that the social health technician, where utilized, participates as an integral part of a patient-care team. The initiation of this second level entry aide has resulted in: improved patient care, reduced professional social workers' case loads, pattern changes in staffing, new hospital personnel functions, and highly skilled technicians being released for other career ladder opportunities while also improving the advancement potential of the social health technician.

Because of the exposure and impact of this program, the professional staff of the institutions have drastically raised their attitudes and opinions regarding the quality of service, competency, and initiative that subprofessions can provide.

Hospital management and union officials have worked together in an attempt to develop other career steps and to encourage inter-agency cooperation and involvement both financially and operationally.

The Training Model. The New Health Occupations Program (NHOP), as a part of the project was officially called, functions as an outside training organization integrating vocational education, on-the-job training, personal counseling, and general education upgrading. Real work serves as a base for the coordinated curriculum which stresses the problem-solving approach to learning.

As an outside trainer, NHOP is not constrained by the time-consuming, bureaucratic dampeners of conventional institutional procedures. It can be quick to respond and flexible in nature. It can provide the faltering with a second chance. It literally gears its total thrust towards individual success: job placement and continued employment.

The NHOP also provides college-approved courses and has helped to initiate a trimester college work-study program culminating in an associate degree with social service specialization.

The adaptability of the training model and coordinated curriculum is further demonstrated by the efficiency in which inhalation therapy, rehabilitation, and intensive care unit technicians function in other health careers.

Selection criteria for trainees are based primarily on interest and apparent aptitude for the job rather than on standardized tests or previous achievement. (In the initial demonstration, no relationship was found between the educational level attained and enrollee's success in training or employment. Likewise, no correlation was found between scores on standardized tests given after program entry and whether or not the trainee completed training.) Holding power and enrollee performance continued at high levels throughout the project.

New Industrial Career Program. The training model of NHOP was also adapted to a non-stipend evening program training men in optical, sewing machine, and typewriter repair. Many of these trainees entered related jobs during training and were upgraded on the job after completing the program.

The needs of individuals were met by providing the unemployed and underemployed having no specific job skills with opportunities to gain the necessary skills and job entry while at the same time motivating them by guaranteeing upgrading upon completion of their training.

This program further demonstrated the effectiveness by which a shortage of highly paid skilled workers in a difficult training field can be met.

Significance for Voc-Tech Application. Aside from specific information, such as job descriptions, qualifications and responsibilities, demographic characteristics of selected trainees, profiles of graduates, etc., which are meaningful to the project but irrelevant to a course or program that the reader may wish to develop in his own locale, there is additional information providing insights into the design and conduct of comparable programs.

Other programs and various problems encountered are mentioned which will help in eliminating pitfalls of new program design and implementation.

This project also points out the problems involved in trainee selection, the use of standardized tests, and challenges faced when working with the disadvantaged, the underachiever, and the poorly educated.

See Sources of Information at the end of this section for ordering instructions.

sources of information

Information Pools Are Underutilized

With millions of dollars being spent on educational research each year, it is amazing to learn that many of the depositories for such information receive relatively few requests for facts and findings from practical arts educators.

This lack of utilization is further appalling in the light of the growing number of area schools, increased emphasis on vocational guidance, expanding services of community colleges, and in general, the expanding awareness and concern for the importance of vocational-technical education at all levels in career preparation and the development of manpower resources.

Each month, MRV will list a variety of informational services in an effort to assist in the dissemination of pertinent and relevant materials designed to assist vocational-technical practitioners in their training missions. It is hoped also that readers will contribute manpower training information that will be helpful to their colleagues in other states and localities.

After all, duplication of effort, irrelevant, superficial, or outmoded methods and materials, improper concepts of job requirements and trainee characteristics, or lack of awareness of trends and emerging career fields are gross misuses of time, talent, and financial resources. These are the very seeds of doubt that tend to destroy the effectiveness of our programs.

Information, materials, and direction are available from many sources; why not short circuit the development process and investigate — utilize — disseminate? We frequently think our situation is unique, our program requirements special — but are they?

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